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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,223	02/27/2007	Nathalie Guennouni	022702-145	1602

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BUCHANAN, INGERSOLL & ROONEY PC  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER
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LAO, MARIALOUISA

ART UNIT	PAPER NUMBER
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1621

NOTIFICATION DATE	DELIVERY MODE
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01/16/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com  
debra.hawkins@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,223	<b>Applicant(s)</b> GUENNOUNI ET AL.	
	<b>Examiner</b> M. Louisa Lao	<b>Art Unit</b> 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 November 2007.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/19/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of both Groups I and II in the reply filed on 11/9/07 is acknowledged. The traversal is on the ground(s) that the catalyst system is used in the method for the preparation of a haloalkyldiakylhalosilane. This is found persuasive and all claims are examined on the merits.

### ***Claim Objections***

2. Claim 13 is objected to because of the following informalities: in the line describing R<sup>2</sup> and R<sup>3</sup>, Applicants used "et" when "and" may have been intended. Appropriate correction is required. Applicants are further respectfully requested to check the entire specification for grammatical and typographical errors.

3. Claims 14 and 24 are objected to because of the following informalities: the claims recite as part of the claims, "have the definitions given in the text...". The inclusion of definitions, referring to text or journal articles is inappropriate.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

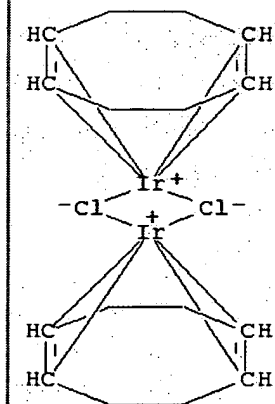
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Nishibayashi et al. Organometallics (1995), 14(12), 5486-7 and Marinetti et al. Organometallics (1994), 13(10), 3956-62.

6. The instant claim is drawn to a catalytic system as recited therein.

7. Nishibayashi et al. teaches the catalyst system, see abstract

AUTHOR(S): Nishibayashi, Yoshiaki; Segawa, Kyohei; Ohe, Kouichi;  
Uemura, Sakae  
CORPORATE SOURCE: Graduate School of Engineering, Kyoto University,  
Kyoto, 606-01, Japan  
SOURCE: Organometallics (1995), 14(12), 5486-7  
CODEN: ORGND7; ISSN: 0276-7333  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 124:146421  
AB A new type of chiral oxazolinylferrocene-phosphine hybrid  
((S,S,S)-[2-(4',5'-diphenyloxazolin-2'-yl)ferrocenyl]diphenylphosphine,  
(S,S,S)-DIPOF) is a very effective ligand for Rh(I)-catalyzed asym.  
hydrosilylation of simple ketones lacking secondary coordinating  
functional group (e.g. acetophenone, 9-acetylanthracene, tert-Bu Me ketone  
and cyclohexyl Me ketone) to give the corresponding secondary alcs. (91%  
ee) with R configuration after acid hydrolysis. Similar reactions also  
proceed highly selectively (96% ee) using Ir(I) catalyst, but the  
configuration of the products is completely reverse.  
IT 12112-67-3, Bis(chloro(1,5-cyclooctadiene)iridium)  
RL: CAT (Catalyst use); USES (Uses)  
(chiral oxazolinylferrocene-phosphine hybrid ligand for asym.  
hydrosilylation of ketones)  
RN 12112-67-3 HCAPLUS  
CN Iridium, di-μ-chlorobis[(1,2,5,6-η)-1,5-cyclooctadiene]di- (CA  
INDEX NAME)



8. Marinetti et al. teaches the catalyst system as shown, see abstract

AUTHOR(S): Marinetti, Angela; Ricard, Louis  
CORPORATE SOURCE: Laboratoire Heteroelements et Coordination, Ecole Polytechnique, Palaiseau, 91128, Fr.  
SOURCE: Organometallics (1994), 13(10), 3956-62  
CODEN: ORGND7; ISSN: 0276-7333

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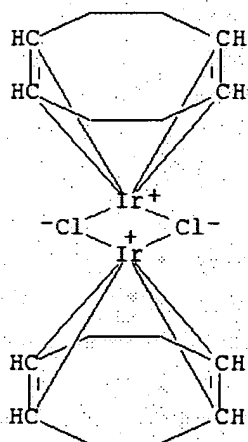
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 121:205488

AB A simple methodol. has been developed for the synthesis of P-menthylphosphetanes having known stereochem. at several chiral centers, including phosphorus. These new electron-rich chiral phosphines have been tested as ligands in olefin hydrogenation reactions and in the palladium-catalyzed hydrosilylation of styrene and cyclopentadiene. High activity and significant enantiomeric excesses have been obtained when using a 1:1 phosphine/ $\text{Cl}_2\text{Pd}(\text{PhCN})_2$  mixture as the catalyst. Within each set of epimeric phosphetanes, the enantiomeric excesses are highly dependent on the relative configurations of the sequence of chiral centers.

IT 12112-67-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with phosphetane)

RN 12112-67-3 HCAPLUS

CN Iridium, di- $\mu$ -chlorobis[(1,2,5,6- $\eta$ )-1,5-cyclooctadiene]di- (CA INDEX NAME)



9. Thus the cited art references anticipate the claim when R<sup>5</sup> is a halogen and R<sup>4</sup> is bidentate ligand.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 13-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toru et al. (JP07126271, JP'271) in view of Weizel et al. (US5610258, US'258).

14. The instant claims are drawn to a method for the preparation of a haloalkyldialkylhalosilane of formula (I) in the presence of a catalyst based on iridium; and a catalyst system for said preparation.

15. JP'271 teaches the preparation of halopropyldimethylchlorosilane, see abstract in the next page and machine translation of claims and abstract. JP'271 teaches the catalyst system used in said preparation, with the structure as shown in next page.

16. The instant claims differ from JP'271, where JP'271 is silent in the use of auxiliary compound; however, US'258 is relied upon to teach that auxiliaries, like hydrocarbons, esters or ethers (col4 lines 51-53) are used in hydrosilylation reactions.

17. The recitation of specific auxiliaries, ratios ranges, alternate equivalent starting materials are optimization steps that are within the normal undertaking of one of ordinary skill in the art at the time of the invention and would not require any inordinate degree of experimentation.

Optimizing such processes is *prima facie* obvious because an ordinary artisan would be motivated to use known processes from the art to make the process more efficient or explore economical advantages over the other. Merely modifying the process conditions is not a patentable modification absent a showing of criticality. In re Aller, 220 F.2d 454, 105 U.S.P.Q. 233 (C.C.P.A. 1955).

INVENTOR(S): Kubota, Tooru; Yamamoto, Akira; Endo, Mikio  
PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07126271	A	19950516	JP 1993-270278	19931028
JP 2938731	B2	19990825		
PRIORITY APPLN. INFO.:			JP 1993-270278	19931028

OTHER SOURCE(S): CASREACT 123:340390; MARPAT 123:340390

AB (Halopropyl)dimethylchlorosilane, useful as an intermediate for silane coupling agents and as a modifier for silicone oils (no data), is prepared by treatment of  $\text{Me}_2\text{SiHCl}$  with  $\text{XCH}_2\text{CH}=\text{CH}_2$  ( $\text{X} = \text{Cl}, \text{Br}, \text{I}$ ) in the presence of  $[\text{IrRY}]_2$  ( $\text{R} = \text{diene}; \text{Y} = \text{Cl}, \text{Br}, \text{I}$ ).  $\text{Me}_2\text{SiHCl}$  was added dropwise to a mixture of allyl chloride and di- $\mu$ -chlorobis( $\eta^4$ -1,5-cyclooctadiene)diiridium at  $35-40^\circ$  over 1 h and left at  $40^\circ$  for 1 h to give 90.5% (3-chloropropyl)dimethylchlorosilane.

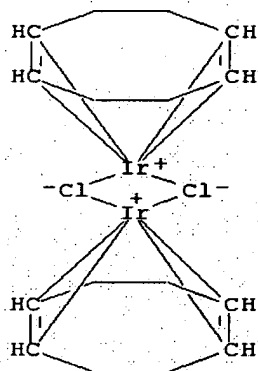
IT 12112-67-3, Di- $\mu$ -chlorobis( $\eta^4$ -1,5-cyclooctadiene)diiridium

RL: CAT (Catalyst use); USES (Uses)

(preparation of (halopropyl)dimethylchlorosilane in presence of Ir catalysts)

RN 12112-67-3 HCAPLUS

CN Iridium, di- $\mu$ -chlorobis[(1,2,5,6- $\eta$ )-1,5-cyclooctadiene]di- (CA INDEX NAME)



18. At the time of Applicants' invention, one of ordinary skill in the art looking to make a haloalkyldialkylhalosilane would have found it obvious to start with the teachings of JP'271, using alternate unsaturated halogenated hydrocarbon (such as the recited allyl chloride) reacted with the Si-H group of a hydridopolysiloxane (such as the recited dimethylhydrochlorosilane).



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19. The artisan of ordinary skill would have been motivated to use the auxiliaries of US'258 in the hydrosilylation process of JP'271 since the auxiliaries are known to work in said process and the artisan would reach a reasonable expectation of making other haloalkyldialkylhalosilanes.

20. No claims are allowed.

### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MLouisa Lao whose telephone number is 571-272-9930. The examiner can normally be reached on Mondays to Thursdays from 8:00am to 8:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ROSALYND KEYS/  
PRIMARY EXAMINER  
ART UNIT 1621

`ml101082008  
MLouisa Lao  
Examiner  
Art Unit 1621

for YVONNE EYLER  
SUPERVISORY PATENT EXAMINER  
TC1600 GAU 1621